



Attn: Muel Laker

Part Numbers 96185-96188
DATA SHEET HW-58800

CATEGORY 3 FLEXGUARD™ PLENUM CABLE TYPE MPP/CMP

DESCRIPTION:

These plenum cables meet the transmission requirements for IBM Type 3 and Category 3. They utilize a specially formulated jacketing material (FLEXGUARD™) which produces a more flexible cable than traditional plenum cables, allowing for easier handling resulting in reduced installation time. Typical applications include 10Base-T(IEEE 802.3) and 4 Mbps Token Ring(IEEE 802.5). They are UL Type MPP/CMP listed for installation in ducts, plenums and other spaces used as environmental air returns when installed in accordance with NEC Article 800-51(a)(g).

APPLICATIONS:

- 10BASE-T (IEEE 802.3)
- 4 Mbps Token Ring (IEEE 802.5)
- 100BASE-VG-AnyLAN
- 52 Mbps ATM

COMPLIANCES:

- UL Listed Type MPP/CMP
- c(UL) Listed TYPE CMP
- IBM Type 3 (UL verified on request)
- ANSI/EIA/TIA 568 & TSB-36 (Category 3)
- ANSI/CEA S-90-661 (Category 3)
- NEMA WC63.1 (Category 3)

CONSTRUCTION:

- Conductor 24 AWG solid bare annealed copper
- Insulation Flame Retardant, Semi-Rigid PVC
- Pairing Two Twists per foot minimum
- Color Code Bandmarked, See GCC Color Code #1
- Core Wrap Optional
- Outer Jacket Tough, FLEXGUARD™ Compound (0° C low temperature handling rating)

PACKAGING:

Standard length 1000 feet

Note: Crosstalk Requirements for 2 Pair Cables are for Worst Pair Near-End Crosstalk, while cables with more than 2 pairs meet Power Sum Near-End Crosstalk.

TYPICAL ELECTRICAL CHARACTERISTICS 24 AWG

DC Resistance (max)		
Ohms/100m(328 ft) @ 20°C	9.38	
Mutual Capacitance (nom)		
nF/100m(328 ft) @ 1kHz5.57		
Characteristic Impedance	OHMS (min-Max)	
Frequency	772 kHz	87-117
	1.0-100 MHz	85-115
Structural Return Loss(SRL)	dB (min)	
Frequency(f)	1.0-10 MHz	12
	10-16 MHz	12-10log(f/10)

Frequency	Max Attenuation dB/100m(328 ft)	Power Sum
		Near-End Crosstalk dB (min)
772 KHz	2.2	43
1 MHz	2.6	41
4 MHz	5.6	32
8 MHz	6.5	27
10 MHz	9.7	26
16 MHz	13.1	23

NOTE: Compliance Testing of Impedance, SRL, Attenuation and NEXT is based on Swept Measurements.

Data subject to change without notice.
Contact your Customer Service Representative for latest information.

ProductSKU: 2131243

ProductDescription: Category3,HighSpeedData/LANFlexguard®Jacketed,UnshieldedTwistedPairs(UTP),Type:MPP/CMP,Pairs:2,GaugeSize(AWG):24,JacketColor:White,Packaging:1000'Pull-Pac®Carton(PP)

ProductCategory: DataCommunication-CommunicationsPlenumCable-Category3Flexguard®Jacketed



ProductConstruction:

- Category:
 - 3
- EngineeringSpecification:
 - 4459
- Type:
 - CMP
 - MPP
- Conductors:
 - 24AWGsolidbareannealedcopper
- Insulation:
 - Flameretardantsemi-rigidPVC
- Pairing:
 - Twotwistsperfootminimum
- ColorCode:
 - Bandmarked
- Shield:
 - UnshieldedTwistedPairs(UTP)
- RipCord:
 - Optional
- Jacket:
 - 0°Clowtemperaturehandlingrating
 - Flexguard®flameretardantPVC
 - Sequentialfootagemarkings
- JacketColor:
 - White

ProductSpecification:



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APPLICATIONS:

- 10BASE-T (IEEE 802.3)
- 4 Mbps Token Ring (IEEE 802.5)
- 100BASE-VG-AnyLAN
- 52 Mbps ATM

COMPLIANCES:

UL Listed Type MPP/CMP
c(UL) Listed TYPE CMP
IBM Type 3 (UL verified on request)
ANSI/EIA/TIA 568 & TSB-36 (Category 3)
ANSI/ICEA S-90-661 (Category 3)
NEMA WC63.1 (Category 3)

CONSTRUCTION:

Conductor 24 AWG solid bare annealed copper
Insulation Flame Retardant, Semi-Rigid PVC
Pairing Two Twists per foot minimum
Color Code Bandmarked, See GCC Color Code #1
Core Wrap Optional
Outer Jacket Tough, FLEXGUARD™ Compound
(0° C low temperature handling rating)

PACKAGING:

Standard length 1000 feet
Available in PULL-PAC cartons(PP), spools(SP),
non-Returnable Reels(RL) and Spool-Pacs(SPC)
• 22 AWG cables are available on request

TYPICAL ELECTRICAL CHARACTERISTICS

24 AWG

DC Resistance (max)

Ohms/100m(328 ft) @ 20°C 9.38

Mutual Capacitance (nom)

nF/100m(328 ft) @ 1kHz5.57

Characteristic Impedance OHMS (min-Max)

Frequency 772 kHz 87-117
1.0-100 MHz 85-115

Structural Return Loss(SRL) dB (min)

Frequency(f) 1.0-10 MHz 12
10 -16 MHz 12-10log(f/10)

ORDERING INFORMATION

Product Number	Pairs AWG	Jacket Color	PKG	O.D. Inches	Weight LBS/KFT
<u>2131243</u>	<u>2/24</u>	<u>WHITE</u>	<u>PP</u>	<u>.12</u>	<u>10</u>
<u>2131244</u>	<u>3/24</u>	<u>WHITE</u>	<u>PP</u>	<u>.13</u>	<u>13</u>
<u>2131453</u>	<u>4/24</u>	<u>BLUE</u>	<u>PP</u>	<u>.15</u>	<u>17</u>
<u>2131245</u>	<u>4/24</u>	<u>WHITE</u>	<u>PP</u>	<u>.15</u>	<u>17</u>
<u>2131313</u>	<u>4/24</u>	<u>GRAY</u>	<u>PP</u>	<u>.15</u>	<u>17</u>
<u>2131246</u>	<u>6/24</u>	<u>WHITE</u>	<u>PP</u>	<u>.18</u>	<u>24</u>
<u>2131247</u>	<u>2/24</u>	<u>WHITE</u>	<u>SP</u>	<u>.12</u>	<u>10</u>
<u>2131248</u>	<u>3/24</u>	<u>WHITE</u>	<u>SP</u>	<u>.13</u>	<u>13</u>
<u>2131249</u>	<u>4/24</u>	<u>WHITE</u>	<u>SP</u>	<u>.15</u>	<u>17</u>
<u>2131419</u>	<u>4/24</u>	<u>GRAY</u>	<u>SP</u>	<u>.15</u>	<u>17</u>
<u>2131454</u>	<u>4/24</u>	<u>BLUE</u>	<u>SP</u>	<u>.15</u>	<u>17</u>
<u>2131250</u>	<u>6/24</u>	<u>WHITE</u>	<u>SP</u>	<u>.18</u>	<u>24</u>
<u>2131555</u>	<u>4/24</u>	<u>BEIGE</u>	<u>SPC</u>	<u>.15</u>	<u>17</u>
<u>2131610</u>	<u>4/24</u>	<u>GRAY</u>	<u>SPC</u>	<u>.15</u>	<u>17</u>
<u>2131505</u>	<u>25/24</u>	<u>WHITE</u>	<u>RL</u>	<u>.40</u>	<u>101</u>

Note: Crosstalk Requirements for 2 Pair Cables are for Worst Pair Near-End Crosstalk, while cables with more than 2 pairs meet Power Sum Near-End Crosstalk.

Frequency	Max Attenuation	Power Sum
	dB/100m(328 ft)	Near-End Crosstalk dB (min)
772 KHz	2.2	43
1 MHz	2.6	41
4 MHz	5.6	32
8 MHz	8.5	27
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16 MHz	13.1	23

NOTE: Compliance Testing of Impedance, SRL, Attenuation and NEXT is based on Swept Measurements.

NEC and CSA Fire Resistance Levels

FIRE RESISTANCE LEVEL	TEST REQUIREMENT	NEC ARTICLE		
		800	725	760
(Highest) Plenum Cables	UL-910 (Steiner tunnel) CSA-FT6 (Steiner tunnel)	MPP CMP	CL3P CL2P	FPLP
Riser Cables Multiple Floors	UL-1666 (Vertical Shaft) CSA-FT4 (Vertical Tray)	MPR CMR	CL3R CL2R	FPLR
General Purpose Cables	UL-1581 (Vertical Tray) CSA-FT4 (Vertical Tray)	MP CM	CL3 CL2	FPL
(Lowest) Residential Cables Restricted Use	UL-1581 VW-1 CSA-FT	CMX	CL3X CL2X	

Notes: 1. Cables with a higher fire resistance level may be substituted for those with a lower fire resistance level.
 2. Non-fire rated outside plant telephone cables may not run outside of a rigid metal conduit more than 50 feet from the point of entrance into a building.
 3. Cables rated CMG or CM may be used in runs penetrating one floor. (NEC 800-53)

Communications wire and cable for premise installations are in accordance with Article 800, and other applicable parts of the National Electrical Code (NEC), latest issue. Communications wire and cables for Canada are in accordance with the harmonized Canadian Standard Association C22.2 No. 214, Underwriters Laboratories UL 444, latest issue.

Plenum

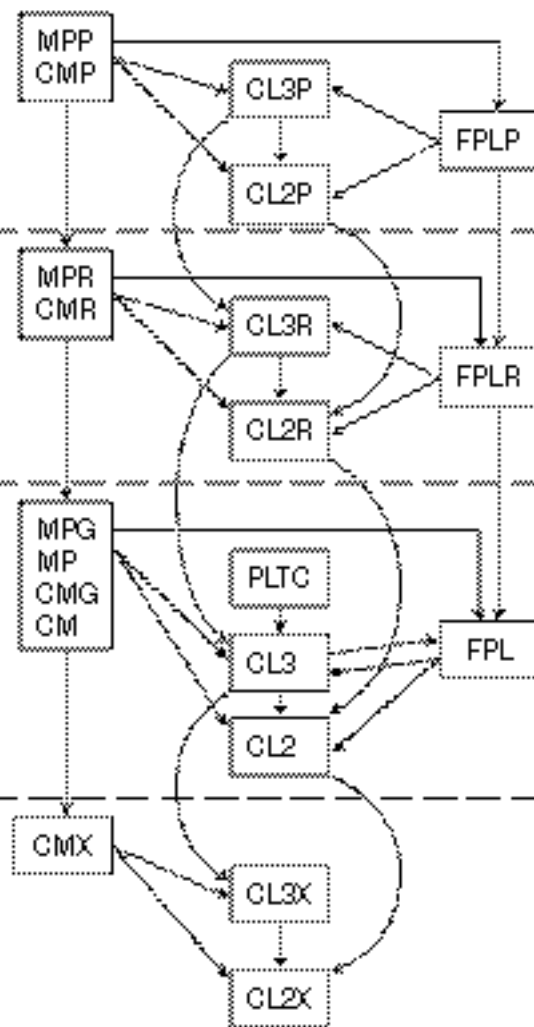
A → **B** Cable A shall be permitted to be used in place of Cable B.

No. 26 minimum for fire alarm use.

Riser

General Purpose

Dwellings



TYPE	DESCRIPTION
CM	Communications Wires and Cables
CL2 and CL3	Class 2 and Class 3 Remote-Control, Signaling, and Power-Limited Cables
FPL	Power-Limited Fire Alarm Cables
MP	Multipurpose Cables
PLTC	Power-Limited Tray Cable

From 1999 NEC

No.ofPairs:	<ul style="list-style-type: none">• 2
ConductorSize(AWG):	<ul style="list-style-type: none">• 24
StandardPackaging:	<ul style="list-style-type: none">• 1000'Pull-pacCartons
OutsideDiameter(in):	<ul style="list-style-type: none">• 0.12
ApproximateWeight(lbsper 1,000ft):	<ul style="list-style-type: none">• 10
StandardPackageQuantity:	<ul style="list-style-type: none">• 1
Footnote:	<ul style="list-style-type: none">• Datasubjecttochangewithoutnotice.ContactyourCustomerServiceRepresentative forlatestinformation.
UPC#:	<ul style="list-style-type: none">• 079407503100
Put-up:	<ul style="list-style-type: none">• 1000
SCC-14:	<ul style="list-style-type: none">• 50079407503100
Cube:	<ul style="list-style-type: none">• 875.706
WeightPerUnitofMeasure:	<ul style="list-style-type: none">• .01

ProductInformation:

Applications:	<ul style="list-style-type: none">• 10BASE-T(IEEE802.3)• 100VG-AnyLAN• 4MbpsTokenRing(IEEE802.5)• 52MbpsATM• T1• Voice
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Compliances:

- ANSI/ICEAS-90-661(Category3)
- ANSI/TIA/EIA568A(Category3)
- c(UL)CMP
- IBMType3
- NEMAWC63.1(Category3)
- ULListedTypeMPP/CMP

Features:

- AllpaircountsmeeetCategory3PowerSumNEXTbackbonewiringtransmission requirements
- ExcellenttransmissioncharacteristicsmeetingCategory3requirements
- ULListedTypeMPP/CMPforinstallationinducts,plenums,andotherspacesused asenvironmentalairreturnswheninstalledinaccordancewiththeNECArticle 800-51(a)(g)

Packaging:

- 1000'Pull-Pac®Carton(PP)

ReferenceCharts

ElectricalCharacteristics

TechnicalSpecifications

Engineeringspecification

NECandCSAFireResistanceLevels

Glossary

ColorCodeChart

IndustryStandards,TypicalUsesofElectricalRequirements

AbbreviationsandAcronyms

ConduitCapacitiesbyWireorCableDiameter

CommercialBuildingDatacom/ElectronicsWiring

